

## REMARKS

In accordance with the foregoing, claims 9-20 are pending and under consideration.

### CLAIM REJECTIONS UNDER 35 U.S.C. §103

In the outstanding Office Action, claims 9-20 are rejected under 35 U.S.C. §103 as allegedly being unpatentable over U.S. Patent No. 6,785,520 to Sugar et al. (hereinafter "Sugar") in view of U.S. Patent No. 7,190,689 to Sato et al. ("Sato").

In the pre-appeal brief conference request filed on January 15, 2009, applicants argued that independent claim 9 patentably distinguishing over Sugar at least by reciting "for each antenna, assigning each element to a subcarrier for transmission, such that for at least two antennas and at least one subcarrier, different elements are assigned to said one subcarrier." Although the anticipation rejection of based on Sugar has been withdrawn, the outstanding Office Action alleges again that the above-identified feature recited in claim 9 is anticipated or rendered obvious by FIG. 8 and col. 7, lines 20-51 of Sugar. Applicants include by reference the previously filed arguments rebutting the assertion that Sugar anticipates or renders obvious the above-identified feature of claim 9, and respectfully request the Examiner to review the alleged support for the rejection.

The outstanding Office Action also asserts:

Sugar does not show re-arrangement of reordering of elements of a signal. Sato teaches retransmission control method and system for retransmitting data sequences by radio using OFDM and teaches reordering of data sequence of a time signal [...]. (See page 3, lines 13-16 of the outstanding Office Action.)

Sato discloses that, in response to a **retransmission** request, a data sequence to be retransmitted is transformed into an orthogonal frequency division multiplexing symbol having a time waveform different from the time waveform of the orthogonal division multiplexing symbol which had been sent before the retransmission request (see Sato's Abstract.) That is using the same signal antenna a retransmitted signal has a different waveform in time than the transmitted signal.

In contrast, the method of claim 9 is applied for regular **transmission** of data when a plurality of subcarriers of a frequency band and a plurality of antennas for transmission are used. That is, according to claim 9, the same data is transmitted during the same time interval by different antenna arranged such as "for at least two antennas and at least one subcarrier,

different elements are assigned to said one subcarrier.” Applicants respectfully submit that Sato’s teachings do not render obvious the above-identified features recited in claim 9.

Sato’s teachings do not anticipate or render obvious that in a method of **transmitting** data by radio using a plurality of subcarriers of a frequency band and a plurality of antennas for transmission such that each antenna transmits data using the plurality of the subcarriers. Further, a difference between a transmitted and a retransmitted data sequence in time, does not anticipate or render obvious that when for each antenna data elements are assigned to subcarriers such that “that for at least two antennas and at least one subcarrier, different elements are assigned to said one subcarrier” as recited in claim 9. In fact the data elements assigned in claim 9 are transmitted in the same time interval by the different antenna, after the OFDM modulation is performed.

To summarize, Sato does not correct or compensate the above-identified failure of Sugar to anticipate or render obvious all the features recited in claim 9 at least because (1) Sato refers to a time sequence and not to assignment of data by subcarriers (i.e. in frequency domain arrangement); (2) Sato’s method is applied for retransmission of data upon request using the same antenna and not to transmission in multiple antenna; and (3) Sato is silent about the manner in which data is rearranged.

Moreover, a person of ordinary skill in the art (POSITA) would not have any motivation to modify Sugar’s method based on the teachings of Sato, since in Sato a reordering takes only place only due to request for retransmission. Even if the POSITA would have tried to modify Sugar’s method with the teachings of Sato, it would have not arrive to the claimed method because Sato is silent on “assigning each element to a subcarrier for transmission, such that for at least two antennas and at least one subcarrier, different elements are assigned to said one subcarrier.”

For the above-reasons claim 9 and claims 10-12 depending from claim 9 patentably distinguish over the prior art.

In view of the above discussion of the prior art references, independent claim 13 and claims 14-19 depending from claim 13 patentably distinguish over the prior art at least due to the following features recited in claim 13 “for each antenna, assigning each element to a subcarrier for transmission, such that for at least two antennas and at least one subcarrier, different elements are assigned to said one subcarrier.”

Independent claim 20 patentably distinguishes over the prior art at least by reciting “assignment means for assigning each element to a corresponding subcarrier, the elements

being assigned individually for each antenna such that for at least two antennas and at least one subcarrier, different elements are assigned to said one subcarrier."

## CONCLUSION

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

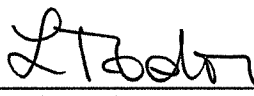
Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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